

REMARKS

Claims 20 to 26 were canceled in response to the Office Action dated December 27, 2002.

Claims 27 to 34 are pending in the present application.

Claims 27 to 34 have been amended to recite that the silicon carbide shell is a "monolithic silicon carbide shell" to more clearly distinguish the silicon carbide of the present application over the composite of Reagan et al. Support in the specification is at page 3, line 9.

Claim 1 was rejected under 35 U.S.C. § 112, second paragraph, as allegedly failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. Applicants respectfully traverse this rejection.

The Final Rejection at page 2, paragraph 2 alleges that the aspect ratio as defined in claim 1 by Applicants is unclear. First, claim 1 is not pending in the present application. Accordingly, Applicants presume that the Final Rejection is referring to present claim 27. However, claim 27 does not define the aspect ratio as the shell diameter to the thickness of the shell. Claim 27 does not recite such language. None of the pending claims recite such language. Accordingly, the subject rejection is improper.

Applicants respectfully request withdrawal of the rejection of claim 1 [27] under 35 U.S.C. § 112, second paragraph.

Claims 27 to 34 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. 6,231,923 to Teverovsky et al. in view of U.S. 5,443,649 to Sibley and U.S. 4,895,108 to Caputo et al. Applicants respectfully traverse this rejection.

The present application is a divisional of U.S. 6,228,297 with a filing date of May 5, 1998. The primary document, Teverovsky et al., was filed on August 17, 1999 with a provisional filing date of August 17, 1998. Applicants' application has an earlier priority date of May 5, 1998. Accordingly, Teverovsky et al. are an improper reference under 35 U.S.C. § 103(a).

Applicants respectfully request withdrawal of the rejection of claims 27 to 34 under 35 U.S.C. § 103 (a) under U.S. 6,231,923 to Teverovsky et al. in view of U.S. 5,443,649 to Sibley and U.S. 4,895,108 to Caputo et al.

Claims 27 to 34 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. 5,154,862 to Reagan et al. in view of U.S. 5,443,649 to Sibley and U.S. 4,895,108 to Caputo et al. Applicants respectfully traverse this rejection.

Claims 27 to 34 have been amended to recite that the silicon carbide is monolithic silicon carbide to more clearly point out that it is not a composite as disclosed in Reagan et al. The hollow chemical vapor deposited monolithic silicon carbide shell is entirely of silicon carbide and not a composite. In contrast, Reagan et al. deposit both CVD silicon carbide in combination with silicon carbide particles of a second phase to form a composite (Reagan et al., col. 2, lines 52 to 56, col. 3, lines 1-4, and col. 4, lines 17 to 22) and not a monolithic silicon carbide shell of CVD silicon carbide alone. Reagan et al. point out that he is specifically depositing silicon carbide particles simultaneously with CVD silicon carbide to form a composite (Reagan et al. col. 5, lines 8 to 26), not just a chemical vapor deposited monolithic silicon carbide. The presently claimed chemical vapor deposited monolithic silicon carbide does not contain second phase silicon carbide as disclosed in Reagan et al. Reagan et al. is totally silent on articles composed entirely of CVD silicon carbide. Reagan et al. address only composites.

Although Reagan et al. alleges that their composite “may also have enhanced fracture and corrosion resistance...”, Reagan et al. are totally silent on such properties for chemical vapor deposited monolithic silicon carbide. The presently claimed invention addresses the problem of cracks in chemical vapor deposited monolithic silicon carbide (specification, page 14, lines 7-15), not composite articles as Reagan et al.

Further, since Reagan et al. are directed to composites and not chemically vapor deposited monolithic silicon carbide a person of skill in the art would not have had any reason or motivation to consider Reagan et al. in making chemical vapor deposited monolithic silicon carbide as recited in the present claims. Composites and chemical vapor deposited monolithic silicon carbide are different compositions.

Neither Sibley nor Caputo et al. make up for the deficiencies of Reagan et al. Sibley is not directed to a method or composition for forming a composite as disclosed in Reagan et al. Sibley is directed specifically to CVD silicon carbide articles or boats for vertical furnaces (Sibley, col. 3, lines 38 to 42), not composites. Reagan et al. is directed to composites for

automotive engines and jet engines (Reagan et al. col. 6, lines 10-12), not CVD silicon carbide boats specifically for vertical furnaces. Each document is directed to different compositions and for different purposes. Accordingly, a person of skill in the art would not have been motivated to combine Sibley with Reagan et al. to modify Reagan et al. to make the presently claimed invention.

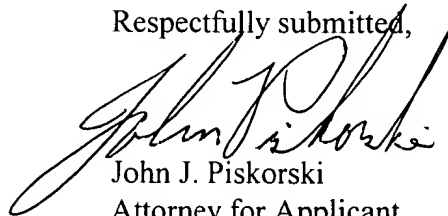
As admitted in the Final Rejection at page 8, Caputo et al. includes pyrolitic carbon to promote nonbrittle fracture. The presently claimed invention does not have pyrolitic carbon coated fibers as disclosed in Caputo et al. Caputo et al. are directed to a totally different composition than the presently claimed invention.

Applicants respectfully request withdrawal of the rejection of claims 27 to 34 under 35 U.S.C. § 103(a) over U.S. 5,154,862 to Reagan et al. in view of U.S. 5,443,649 to Sibley and U.S. 4,895,108 to Caputo et al.

Favorable consideration and allowance of claims 27 to 34 are earnestly solicited.

If the Examiner has any questions concerning this response or the application, or if he believes the application is for any reason not yet in condition for allowance, he is respectfully requested to telephone the undersigned at the number set forth below in order to expedite allowance of the application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "John J. Piskorski", is written over the typed name.

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